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Surface science in photography

ABSTRACT. Advanced surface science and material technologies are the basis of industrially manufactured photographic print media from its beginning in the early 20th century up to now. This paper traces the history of nanotechnology in photography and particularly at ILFORD. ILFORD is one of the pioneers of industrial black and white photo manufacturing, with more than 130 years of history. ILFORD Imaging Switzerland, the Swiss branch of ILFORD, manufactured high quality colour photo display film for over 40 years (1972–2013), and photo inkjet media in industrial quantities from 1996–2013, at their site in Marly (Fribourg). A mainly empirical craft until the early 20th century, photography quickly changed into a scientific discipline embracing the most advanced surface analysis techniques, colloid science methods and liquid multilayer coating technologies of its time. Starting around 1990 those same skills were applied to large-scale manufacturing of photo-like inkjet media and ink, the “digital” photographic media that freed the photographer from the darkroom and presented unforeseen creative opportunities to the artist.

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